United States Department of the Interic
National Business Center
Aviation Management
300 E. Mallard Dr., Ste 200
Boise, Idaho 83706-3991

June 11, 2010

Ms. Mary Sexton, Director
Montana Department of Natural Resources and Conservation
1625 E. Eleventh Avenue
Helena, Montana 59620

EXHIBIT 9
DATE 2/16/11
HB 468

Dear Ms. Sexton:

In late May 2010, a joint team of DOI Aviation Management (AM) and Forest Service subject matter experts visited your aviation facility for a proof of concept test of the new Cooperator Aviation Standards. In addition to inspecting a total of eight (8) aircraft for compliance, the team conducted an in-depth examination of DNRC's MT-205 program to assess the suitability of these un-certificated aircraft for carriage of Federal fire crews during initial response operations.

The following areas were inspected:

- Maintenance facility
- Records management
- Technical manuals
- Parts organization and traceability
- Major alterations and modifications, supporting charts and technical data
- Airworthiness Directives and Technical Bulletins
- Inspection program, time life, and retirement compliance
- Aging aircraft program

The team made three (3) recommendations for improving program safety:

1. That MT DNRC considers adding a monitoring system that audibly signals and electronically captures over torques and other out-of-limit situations to each MT-205;
2. That DNRC's aging aircraft program be made a formal part of your program; and
3. That DNRC install keeperless cargo hooks to meet the same one-handed loading specification required of our commercial vendors.

Overall, AM accepts Montana DNRC's MT-205 configuration, maintenance and inspection program as meeting an acceptable level of safety for cooperator fire operations. This acceptance will remain in effect until rescinded or amended in writing, confirmed each year as a result of our annual cooperator inspection visit. Please contact the AM Technical Services Division Chief, Ralph Getchell (208 433-5077) if you have additional questions.

Sincerely,

Mark L. Bathrick

Mark L. Bathrick
Associate Director

Attachment (1): AMD Team Review Trip Report

cc: AMD Regional Directors
USFS National Aviation Office (Norbury)
NIAC Chair (Hamilton)

Trip Report Interagency Cooperator Team Review of Montana DNRC May 2010

The purpose of this Interagency team review was to investigate contractor questions and statements regarding the operation of the Montana State helicopters and to perform a proof of concept inspection applying the new 2010 Cooperators Aviation Standards.

The team was comprised of a total of five members of the Interagency Aviation Fire Staff; Aviation Maintenance Inspectors Dave Parsons from the Department of the Interior and John Nelson and Rick Howe from the USDA Forest Service, FS Region One Aviation Officer Margaret Doherty, and Ralph Getchell, Chief of AMD's Technical Services Division, DOI. MT DNRC Chief Pilot Chuck Brenton and Maintenance Chief Ed Martin were our primary DNRC contacts.

The team inspected two Bell 206 helicopters and one Cessna 180, all certificated, using the 2010 Cooperator Standard. The team also inspected the entire fleet of five un-certificated MT205 helicopters and associated records including the records on current modifications. While all team members understand the basic concept that the FAA has no authority to approve "public-use" aircraft, we agreed to use the processes outlined in the FAA 8300 Inspectors Handbook for reviewing FAA commercial operators, to provide a detailed framework for examining the MT205 program.

OBSERVATIONS

Maintenance Facility is in excellent condition and provides adequate housing for the entire fleet indoors for maintenance. The hangar and shop areas are clean and well organized. All maintenance related areas have sufficient lighting, electrical power and compressed air outlets. Tools are organized and calibration control seemed to be in place.

Records Management was reviewed for accurate entries and current status sheets. No problems were found on hard copy records reviewed. Status sheets were all updated except current aircraft presently in work.

Technical Manuals are always difficult regarding older aircraft; however Montana DNRC has current technical manuals in place for all aircraft including the modifications on the MT205. These modification manuals are called the "Service Instruction's" (SI) and incorporate the entire system, including modifications to the airframe, components and related system. This gives the technician one place to go for updates on proper assembly, removal and detailed inspection criteria. These manuals are well organized and available to the field mechanic in electronic and paper copies. We did not see a distribution list or a current revision system in place for tracking changes.

Parts organization and Traceability was excellent. All parts and components are bar coded for complete traceability from receiving to work order placement on the aircraft. Inventory was reviewed and found to be well organized with proper controls and procedures.

Major Alterations and Modifications documents were reviewed and met the same procedural requirements as in commercial programs. Montana DNR has taken the effort to organize and document procedures for changes made to the basic Army UH-1H model helicopter. These modifications and changes follow the same basic step procedures placed on commercial 135 operators; however no final FAA approval is required nor allowed for government programs operating under the definition of "public".

Montana DNR has developed a self-issued type certificate to be used by both mechanics and inspector as a starting point for current aircraft data. This document can then be used in the inspection process for return to service same as commercial programs. Changes to this type certificate are called "modifications "and must follow a procedure for documents and approvals similar to FAA procedures established for commercial aircraft. FAA Forms 337 are used to document these modification and Instructions for Continued Airworthiness (ICA) are then incorporated into the inspection program to detail how to maintain these changes. Service Instructions (SI) are established to show detailed instructions for the mechanic to install the modification and the ICA's also provides instructions for maintaining these changes. Criteria for what is termed "acceptable data" have been established in the 2010 Cooperators Standards for these modifications. Montana DNR has followed these criteria.

Montana DNR contracted with an FAA Designated Engineering Representative (DER) for the review of those modifications that required fatigue analysis on the airframe and components, including structural analysis, taking into account the aircrafts operational and performance profile of repetitive lift. The results of this effort have given Montana DNRC accurate aircraft performance charts and a comprehensive maintenance program that have been validated by an FAA approved DER. This individual is a former Bell Helicopter structures and fatigue engineer and is considered by the team to be exceptionally well qualified to make these assessments.

Airworthiness Directives and Technical bulletins were reviewed for compliance with 14 CFR 91.417. A good system for record keeping was in place. Military bulletins were also reviewed for compliance with no problems found.

Inspection program, time life and retirement compliance were reviewed and found adequate. ICA's were added to the inspection program for the modifications listed. Time life limits were not elevated without a FAA Designated Engineering representative (DER) review of the changes.

Aging Aircraft Program was in evidence but not formalized. This program is required for all FAA 135 maintenance programs and is highly recommended by the FAA and this team.

The pillow block bolts and high torque issues raised by the contractors were found to be inaccurate. Proper main rotor head build-up was verified and found compatible with the engine/main transmission configuration installed and the maximum torque settings allowed in the performance data developed and verified by the FAA Designated Engineering representative (DER). The Montana FAA Flight Standards District Office was charged to investigate these same contractor concerns in response to a similar complaint. While in Montana, the team conferred with the FAA. Our inspection team's findings are in agreement with the FAA's inspectors from the Helena Flight Standards District Office.

CONCLUSIONS:

Montana DNRC's maintenance and inspection program does meet an acceptable level of safety.
Recommendations for improvement

1. **Helicopter Torque Monitoring System:** The torque system installed on the MT205 helicopters has a preset torque warning light on the instrument gauge to alert the pilot when he has reached the maximum torque setting. This type of warning is a nice function for the pilot and maintenance staff. However during repetitive lift operations, most high torque setting are usually triggered while the pilot has his head out the door looking down at the bucket or long line. This system does not record how high the over torque was nor does it record the duration in time the event took place. No accurate information regarding the over torque event can be captured.

   A number of electronic systems are available that capture all over torque events and provides early audible notifications even before the over torque event occurs. Some of these systems can monitor multiple signals at one time. These systems, sometimes called Health and Usage Monitoring Systems (HUMS), gives the pilot and maintenance staff accurate warnings on events that ensures safe operating limits and insures proper maintenance action is followed after an exceeded events occur. These systems have evolved over the past 10 years and developed a proven track record of success to large and small aviation operators.

2. **Aging Aircraft Program:** Program work towards an Aging Aircraft Program is obviously present in many areas. Old wire is being replaced, painting aircraft and proper corrosion control practices are in place; however formalizing this into the maintenance program will document the process.

3. **Keeperless Hooks:** For numerous safety reasons, keeperless cargo hooks are required on Forest Service and Interior contracts. Adding this type of hooks to the MT205 program will provide the same safe, one-handed loading requirement as commercial operators have; and will provide improved reliability in maintenance.

Ralph W. Getchell
Chief, AMD Technical Services